Claim 1. (Amended) A hydrorefining catalyst comprising a hydrogenation active metal component supported on a refractory porous carrier, wherein a median pore diameter determined by the nitrogen adsorption method is 8 to 20 nm, a pore volume determined by the nitrogen adsorption method is 0.56 - 1.0 cm^3/g, and a pore volume of pores having a pore diameter of 50 nm or larger determined by the mercury intrusion porosimetry method is 0.32 - 1.1 cm^3/g, wherein the pore volume determined by the mercury intrusion porosimetry method is 0.87 cm^3/g or greater.

Claim 12. (Amended) A method of producing a hydrorefining catalyst comprising a hydrogenation active metal, comprising the steps of:

kneading a porous starting powder whose main component is γ-alumina wherein the γ-alumina in the porous starting powder is present at 90 weight % or more and wherein the γ-alumina has a pore volume of 0.75 cm^3/g or greater and a mean particle diameter of 10 to 200 μm to prepare a kneaded product;

molding and calcining said kneaded product; and

supporting the active metal component on the kneaded product or on the kneaded product after calcining.